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10/692,792	10/27/2003	Osamu Kizaki	244412US2	1061
22850 7590 12/14/2007 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER ZHENG, JACKY X	
			ART UNIT 2625	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/692,792

Applicant(s)

KIZAKI ET AL.

Examiner

Jacky X. Zheng

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on October 29, 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 28-37 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-37 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on October 27, 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to applicant's amendments and remarks filed on October 29, 2007.
2. **Claims 1-27** have currently been cancelled.
3. **Claims 28-37** are newly added.
4. **Claims 1-37** is subject to restriction and/or election requirement.
5. **Claims 28-37** is withdrawn from consideration as being drawn to the non-elected group.
6. **Claims 1-27** are remained rejected.

Election/Restrictions by Original Presentation

7. Newly-added Claims 28-37 are directed to an invention that is independent or distinct from the invention originally claimed for *at least* the following reasons:

- I. Species of the embodiment claimed corresponding to **previously-presented Claims 1-27**, which are drawn to **an image forming apparatus** having at least one hardware item and at least one program for image formation (claims 1-23), *inter alia*, comprising: a resource management part determining a memory size required for a conversion function to convert the format of the image data; an image data management part acquiring a memory area corresponding to the determined memory size; **a method** of acquiring a memory area for an image forming apparatus having at least one hardware item for image formation, at least one application operating in accordance with at least one program for image formation (claims 24-25), *inter alia*, comprising: a size determination step of determining, in response to receipt of a

request to convert a format of image data from an application of the image forming apparatus ..., and a memory area release step of releasing the acquired memory area after the format of the image data is converted; a method of acquiring a memory area for an image forming apparatus (claims 26-27), the method, *inter alia*, comprising: a size determination step of determining, in response to activation of the image forming apparatus, a target memory size required for a conversion function of the image data conversion part.

- II. Species of the embodiment claimed corresponding to **newly-added Claims 28-37**, which are drawn to **an image forming apparatus (claims 28-33) configured to be connected to a plurality of hardware resources by a system bus, *inter alia*, including:** an image conversion unit configured to process image data by software with a first conversion function to convert an image into a different format, and configured to access and to send the image data to a hardware image processing unit over the system bus that is configured to process the image data by hardware with at least one second hardware conversion function; an image data management unit acquiring a memory area corresponding to the memory size of the resource management unit; wherein the image conversion unit is further configured to access a register of the hardware image processing unit over the system bus to determine which ones of the at least one second hardware conversion functions are available for conversion of the image data; a method (claims 34-37) of acquiring a memory area for an image forming apparatus configured to be connected to a plurality of hardware resources by

Art Unit: 2625

a system bus, *inter alia*, the method comprising: accessing the hardware image processing unit over the system bus by an image data conversion unit to read a register of the hardware image processing unit, the register including information determining which ones of the at least one second hardware conversion functions are available for conversion of the image data.

Reasons for Independent and/or Distinct Invention(s)

8. The species are independent or distinct because claims to different species recite the mutually exclusive characteristics of such species, such as the ones discussed in details above with respect to each of the broadest claim within the claim groups. In addition, these species are not obvious variants of each other based on the current record. Thus, for *at least* the reasons that these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required, and restriction for examination purposes as indicated is proper. (also see the details in section of “*Established Burden*” below).

9. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

10. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Art Unit: 2625

The election of an invention or species may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse.

11. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

12. Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or invention to be examined even though the requirement be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

13. Should applicant traverse on the ground that the inventions or species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions or species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103 (a) of the other invention.

14. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Art Unit: 2625

Established Burden(s)

15. Due to the reason these invention are independent or distinct for *at least* the reasons given above, there would be a serious burden on Examiner if restriction is not required. For instances, there is an examination and/or search burden for these patentably distinct and/or independent species due to their mutually exclusive characteristics. The species require *at least* a different field of search (e.g. searching different classes/subclasses or electronic resources, or employing different search queries); and/or the prior art applicable to one species would not likely applicable to another species; and/or the species are likely to raise different non-prior art issues under U.S.C. 101 and/or 35 U.S.C 112, first paragraph.

Election by Original Presentation

16. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, newly-added Claims 28-37 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

17. The office action on the merit, mailed on August 29, 2007 is fully incorporated into this final office action by reference and also provided as below for purposes of discussion.

Claim Rejections - 35 USC § 112

18. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it

Art Unit: 2625

pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

19. **Claims 10-23** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

20. Claim 10 recites a limitation of “a conversion management part” for managing the hardware item. Such a limitation has not been *explicitly* depicted with sufficient descriptions from the original disclosure, nor in the language of instant claim for sufficient supports. This also affects the dependent claims 11-23.

21. Claim 11 recites a limitation of “device management information regarding the basic conversion part and ...”. Such a limitation has not been *explicitly* depicted with sufficient descriptions from the original disclosure, nor in the language of instant claim for sufficient supports.

22. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

23. **Claims 3, 9, 11-23 and 25-27** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

24. Claims 3 and 26 recites the limitation of “in response to activation of the image forming apparatus”. Such a limitation has not been *explicitly* depicted with sufficient descriptions in the

Art Unit: 2625

instant claim. It is unclear that the limitation of "activation" is referring to either: activation (or powering on) of the image forming apparatus, or activation (or initialization) of the conversion function recited in claim 1. This also affects the dependent claim 27. Further clarification is required.

25. Claim 9 recites the limitation of "hardware information". Such a limitation has not been *explicitly* depicted with sufficient descriptions in the instant claim. The scope of such a limitation is unable to be determined. Further clarification is required.

26. Claim 11 recites a limitation of "device management information regarding the basic conversion part and ...". Such a limitation has not been *explicitly* depicted with sufficient descriptions in the language of instant claim, the scope of such a limitation is unable to be determined. Further clarification is required. This also affects the dependent claims 12-23.

27. Claim 14 recites a limitation of "a relation". Such a limitation has not been *explicitly* depicted with sufficient descriptions in the instant claim. The scope of such a limitation is unable to be determined. Further clarification is required. This also affects the dependent claims 15-23.

28. The terms "gradual" or "gradually" in claims 18-21, 25 and 27 are relative terms, which render the claim indefinite. The terms "gradual" or "gradually" are not *explicitly defined* by the claim, the specification does not provide a *explicit* standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

29. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2625

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

30. **Claims 1-17, 22-24 and 26** are rejected under 35 U.S.C. 102(b) as being anticipated by **Mitani (U.S. Patent No. 6,052,200)**.

With regard to claim 1, the claim is drawn to an image forming apparatus having at least one hardware item and at least one program for image formation, comprising: an image data conversion part having at least one conversion function to convert a format of image data (See Mitani, i.e. column 1, line 51 – column 2, line 7); a resource management part determining a memory size required for a conversion function to convert the format of the image data (i.e. column 1, lines 53-56;); and an image data management part acquiring a memory area corresponding to the determined memory size (i.e. column 1, lines 56-59; column 1, line 65 – column 2, line 7).

With regard to claim 2, the claim is drawn to the image forming apparatus as claimed in claim 1, wherein the image data management part, in response to receipt of a request to convert the format of the image data from an application operating in accordance with the at least one program, acquires the memory area (i.e. column 1, line 51- column 2, line 7; Fig. 15).

With regard to claim 3, the claim is drawn to the image forming apparatus as claimed in claim 1, wherein the image data management part, in response to activation of the image forming apparatus, acquires the memory area (i.e. Fig. 15, 15.0-15.4; column 1, lines 61-64).

With regard to claim 4, the claim is drawn to the image forming apparatus as claimed in claim 1, wherein the resource management part has convertible format information to indicate at least one format of image data that the at least one hardware item is able to convert

Art Unit: 2625

corresponding to the memory size of the memory area acquired by the image data management part (i.e. column 2, lines 4-14).

With regard to claim 5, the claim is drawn to the image forming apparatus as claimed in claim 1, wherein the image data conversion part uses a hardware item to convert the format of the image data (i.e. column 5, lines 24-26).

With regard to claim 6, the claim is drawn to the image forming apparatus as claimed in claim 5, wherein the hardware item includes a basic conversion part by default, and further includes at least one optional conversion part to provide an additional conversion function (i.e. column 1, lines 3-4; and column 1, lines 9-10).

With regard to claim 7, the claim is drawn to the image forming apparatus as claimed in claim 6, wherein the additional conversion function of the at least one optional conversion part is for improving an image quality of the image data (i.e. column 19, lines 15-18).

With regard to claim 8, the claim is drawn to the image forming apparatus as claimed in claim 6, wherein the additional conversion function of the at least one optional conversion part is for converting a format of image data that the basic conversion part is not able to convert (i.e. column 1, lines 3-4; and column 1, lines 9-10).

With regard to claim 9, the claim is drawn to the image forming apparatus as claimed in claim 6, wherein the hardware item has hardware information regarding the basic conversion part and the at least one optional conversion part (i.e. column 5, lines 2-3).

With regard to claim 10, the claim is drawn to the image forming apparatus as claimed in claim 6, wherein the image data conversion part comprises a conversion management part managing the hardware item (i.e. column 5, lines 28-33).

With regard to claim 11, the claim is drawn to the image forming apparatus as claimed in claim 10, wherein the conversion management part has device management information regarding the basic conversion part and the at least one optional conversion part (i.e. column 5, lines 28-33; Fig. 15-16;).

With regard to claim 12, the claim is drawn to the image forming apparatus as claimed in claim 11, wherein the conversion management part reports the device management information to the resource management part (i.e. column 1, lines 55-64).

With regard to claim 13, the claim is drawn to the image forming apparatus as claimed in claim 12, wherein the resource management part has resource management information regarding the basic conversion part and the at least one optional conversion part, and the resource management information is obtained based on the reported device management information (i.e. column 1, line 65 – column 2, line 15).

With regard to claim 14, the claim is drawn to the image forming apparatus as claimed in claim 13, wherein the resource management part has target memory size information to indicate a relation between combinations of the basic conversion part and the at least one optional conversion part and memory sizes of memory areas required to convert a format of image data by the combinations (i.e. column 1, line 65 – column 2, line 15).

With regard to claim 15, the claim is drawn to the image forming apparatus as claimed in claim 14, wherein the resource management part has combination information to indicate a relation between formats of image data and combinations of the basic conversion part and the at least one optional conversion part necessary to convert the formats (i.e. column 1, line 65 – column 2, line 15).

With regard to claim 16, the claim is drawn to the image forming apparatus as claimed in claim 15, wherein the resource management part determines a target memory size based on the resource management information, the target memory size information, the combination information and a converted format (i.e. column 1, line 60 – column 2, line 15).

With regard to claim 17, the claim is drawn to the image forming apparatus as claimed in claim 16, wherein the resource management part, when the image data management part fails to acquire a memory area corresponding to the determined target memory size, determines a new target memory size based on the target memory size information (i.e. column 12, lines 8-16).

With regard to claim 22, the claim is drawn to the image forming apparatus as claimed in claim 16, wherein the resource management part determines the target memory size such that said target memory size is greater than or equal to a memory size obtained based on the resource management information and the target memory size information (i.e. column 16, lines 13-15; Fig. 18A-18C).

With regard to claim 23, the claim is drawn to the image forming apparatus as claimed in claim 16, wherein the resource management part, when the image data management part fails to acquire a memory area required for the hardware item, determines the target memory size as a memory size required for a software item of the image data conversion part to convert the format of the image data (i.e. column 12, lines 8-16; column 1, lines 60-64;).

With regard to claim 24, the claim is drawn to a method of acquiring a memory area for an image forming apparatus having at least one hardware item for image formation, at least one application operating in accordance with at least one program for image formation, and an image

Art Unit: 2625

data conversion part having at least one conversion function to convert a format of image data, the method comprising: a size determination step of determining, in response to receipt of a request to convert a format of image data from an application of the image forming apparatus, a target memory size required to convert the format of the image data based on a conversion function of the image data conversion part corresponding to the image data and the converted format (i.e. column 1, lines 60-64); a memory area acquisition step of acquiring a memory area corresponding to the determined target memory size (i.e. column 1, 57-60); and a memory area release step of releasing the acquired memory area after the format of the image data is converted (i.e. column 12, lines 19-28).

With regard to claim 26, the claim is drawn to a method of acquiring a memory area for an image forming apparatus having at least one hardware item for image formation, at least one program for image formation, and an image data conversion part having at least one conversion function to convert a format of image data, the method comprising: a size determination step of determining, in response to activation of the image forming apparatus, a target memory size required for a conversion function of the image data conversion part; and a memory area acquisition step of acquiring a memory area corresponding to the determined target memory size and the conversion function (i.e. column 1, lines 53-64).

Claim Rejections - 35 USC § 103

31. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2625

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

32. **Claims 18-21, 25 and 27** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Mitani** as applied to claims 1-17, 24 and 26 above, and further in view of **Shimizu (U.S. Patent No. 6,052,202)**.

With regard to claims 18, 19 and 25, Mitani does not *explicitly* disclose the limitations of obtaining a new target memory through gradual size decrease.

However, Shimizu discloses an invention relates to an information processing apparatus such as a printer capable of designating the capacity of the memory to be used, a memory control method, and further disclose the limitation of “a decrease in the band memory size” to reduce the frequency of memory degrading (See Shimizu, i.e. column 12, lines 39-42).

With regard to claims 20, 21 and 27, Mitani does not *explicitly* disclose the limitations of obtaining a new target memory through gradual size increase.

However, Shimizu further discloses the limitations of increase the “system work memory” (i.e. column 10, lines 5-16; Fig. 6). Also, Shimizu discloses “an increase in band memory size” to reduce the probability of time degrading.

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Mitani to include the limitations of obtaining a new target memory through gradual size decrease and increase taught by Shimizu. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Mitani by the teachings of Shimizu to include the limitations of obtaining a new target memory through gradual size decrease and increase taught by Shimizu, for purposes of reducing the frequency of memory

Art Unit: 2625

degrading by decreasing in size of memory, and reducing the probability of time degrading by increasing in size of memory (See Shimizu, i.e. column 12, lines 34-42).

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A. Shindoh et al. (U.S. Pub. No. 2004/0233466 A1, RICOH), disclose an electronic device for transfer of image data.
- B. Shindoh et al. (U.S. Pub. No. 2004/0190037 A1, RICOH), disclose an image processing apparatus, including; inputting, storage, outputting and conversion parts.
- C. Kizaki et al. (U.S. Pub. No. 2005/0157322, RICOH), disclose an apparatus for transforming image format of image data.
- D. Shimizu et al. (U.S. Patent No. 5,987,230) disclose an information processing apparatus has a derivation which derives a usable memory size, and a controller which determines a default value of the memory to be used according to the derived size.
- E. Kimura et al. (U.S. Patent No. 5,978,561) disclose an image forming apparatus for controlling a supply of divided image data to print means.
- F. Morikawa et al. (U.S. Patent No. 6,876,466) disclose an image processing system includes a memory for storing image data of a plurality of pages (i.e. claim 1).
- G. Suzuki et al. (U.S. Patent No. 6,463,445) disclose a multimedia information retrieval system and method, particularly "the format conversion process" automatically determines the computer memory size required to perform the transcoding processing, thereby saving the computer memory resources.

- H. Sawano (U.S. Patent No. 7,019,854) discloses a control means for controlling memory means and an output section is provided in a printing system.
- I. Kumada (U.S. Patent No. 5,495,560) discloses an output apparatus which temporarily stores pattern data for output.
- J. Taoda (U.S. Patent No. 6,480,295) discloses an invention relates to a print control method in which code data such as PDL is converted into image data and printing is carried out.
- K. Minamizawa (U.S. Patent No. 6,208,434) discloses an invention permits copying of multiple documents when only a small amount of memory is available.
- L. Yamashita et al. (U.S. Pub. No. 2002/0019914 A1) disclose a signal processor comprises a plurality of processing with a plurality of kinds of processors and a shared memory accessed through a versatile control means.

Conclusion

34. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

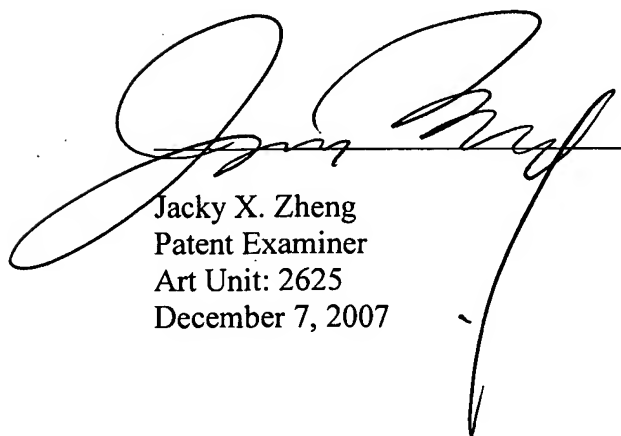
Art Unit: 2625

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

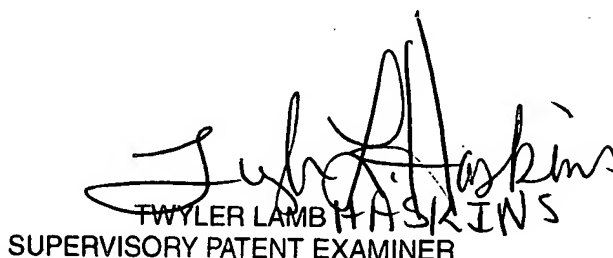
35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacky X. Zheng whose telephone number is (571) 270-1122. The examiner can *normally* be reached on Monday-Friday, 7:30 a.m.-5p.m., Alt. Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler M. Lamb can be reached on (571) 272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jacky X. Zheng
Patent Examiner
Art Unit: 2625
December 7, 2007



TWYLER LAMB
SUPERVISORY PATENT EXAMINER